Muybridge (Eadweard) Attitudes of Animals in Motion. Arranged in slips for the Zoetrope. The Author.

Oppelt (Gustave) Navigation Aérienne par les Ballons—Système Oppelt. 8vo. *Bruxelles* 1882. The Author.

Portrait of the Rev. Charles Turnor, Compiler of the "Collectanea Newtoniana." Also a Medal, formerly belonging to the same Rev. Charles Turnor. Mr. Anthony Hanmer.

December 21, 1882.

THE PRESIDENT in the Chair.

The Presents received were laid on the table and thanks ordered for them.

The following Papers were read:—

I. "On the Normal Paraffins. Part IV." By C. SCHORLEMMER, F.R.S., and T. E. THORPE, F.R.S. Received December 5, 1882.

(Abstract.)

This communication contains the results of an inquiry made to determine the constitution of the heptane which one of them found in the resinous exudation from *Pinus Sabiniana*. The pure heptane was converted into a mixture of chlorides, and these were transformed into the corresponding primary and secondary alcohols. The alcohol was then oxidised, and from the analysis of the silver salts it was proved that *Pinus* heptane had yielded primary heptyl alcohol and methyl-pentyl-carbinol, exactly as in the case of heptane from petroleum.

A second portion of the chlorides was converted into heptylene, boiling at 98·5°, which, unlike the hexylene of analogous constitution, combines only slowly with hydrochloric acid. The heptylene by oxidation was shown to be *butyl-methyl-ethylene*, $C_4H_9CH=CH.CH_3$; it had been formed from the secondary heptyl chloride—

$$C_4H_9—CH_2—CHCl.CH_3.$$

The results of the investigation afford further evidence of the fact that when chlorine acts upon a normal paraffin, not all the chlorides indicated by theory are formed, but only the primary chloride, and a secondary chloride, which contains the group—$CHCl.CH_3$.